

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL01-002-US	Serial No. 10/728,190
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)	First Named Inventor: Kyekyoon Kim	
	Filing Date: December 4, 2003	Group: 1616

U.S. PATENT DOCUMENTS							
Examiner Initials*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
/KG/	Z1	3,579,245	05/1971	Berry			
	Z2	4,356,528	10/1982	Coffee			
	Z3	4,444,961	04/1984	Timm			
	Z4	4,748,043	08/1986	Seaver et al.			
	Z5	4,861,627	08/1989	Mathiowitz et al.			
	Z6	5,019,400	05/1991	Gombotz, et al.			
	Z7	5,260,002	11/1993	Wang			
	Z8	5,340,090	08/1994	Orme et al.			
	Z9	5,344,676	09/1994	Kim et al.			
	Z10	5,445,666	08/1995	Peschka et al.			
	Z11	5,462,866	10/1995	Wang			
	Z12	5,650,173	07/22/97	Ramstack et al.			
	Z13	5,654,008	08/05/97	Herbert et al.			
	Z14	5,667,808	09/16/97	Johnson et al.			
	Z15	5,674,534	10/07/97	Zale et al.			
	Z16	5,711,968	01/27/98	Tracy et al.			
	Z17	5,716,644	02/10/98	Zate et al.			
	Z18	5,792,477	08/11/98	Rickey et al.			
	Z19	5,817,343	10/06/98	Burke			
	Z20	5,874,111	02/1999	Maitra, et al.			
/KG/	Z21	5,891,478	04/06/99	Johnson et al.			

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/KG/	Z22	5,912,015	06/15/99	Bernstein et al.			
	Z23	5,916,597	06/29/99	Lee et al.			
	Z24	5,916,598	06/29/99	Rickey et al.			
	Z25	5,922,253	07/13/99	Herbert et al.			
	Z26	5,948,483	09/1999	Kim et al.			
	Z27	5,954,907	09/1999	LaRose et al.			
	Z28	5,985,354	11/1999	Mathiowitz et al.			
	Z29	5,989,463	11/23/99	Tracy et al.			
	Z30	6,051,259	04/18/00	Johnson et al.			
	Z31	6,060,128	05/2000	Kim et al.			
	Z32	6,110,503	08/29/00	Rickey et al.			
	Z33	6,110,921	08/29/00	Mesens et al.			
	Z34	6,116,516	09/2000	Ganan-Calvo			
	Z35	6,119,953	09/19/00	Ganan-Calvo et al.			
	Z36	6,153,129	11/28/00	Herbert et al.			
	Z37	6,174,469	01/16/01	Ganan-Calvo			
	Z38	6,183,781	02/06/01	Burke			
	Z39	6,187,214	02/13/01	Ganan-Calvo			
	Z40	6,189,803	02/20/01	Ganan-Calvo			
	Z41	6,194,006	02/27/01	Lyons et al.			
	Z42	6,196,525	03/06/01	Ganan-Calvo			
/KG/	Z43	6,197,835 B1	03/2001	Ganan-Calvo			

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U.S. PATENT DOCUMENTS							
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/KG/	Z44	6,197,835	03/06/01	Ganan-Calvo			
↓	Z45	6,224,794	05/01/01	Amsden et al.			
↓	Z46	6,302,331	10/2001	Dvorsky et al.			
↓	Z47	6,447,752	09/2002	Edwards et al.			
↓	Z48	6,447,753	09/2002	Edwards et al.			
↓	Z49	6,458,387	10/2002	Scott et al.			
↓	Z50	6,669,961	12/2003	Kim et al.			
↓	Z51	2002/0054912	05/2002	Kim et al.			
↓	Z52	2002/0160109	10/2002	Yeo et al.			
↓	Z53	2004/0022939	02/2004	Kim et al.			
/KG/	Z54	2004/0079360	04/2004	Coffee et al.			

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Examiner Initials*		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
/KG/	Y1	CA 2,419,115	02/2002	Canada				
↓	Y2	CH 675 370 A5	09/1990	Switzerland				
↓	Y3	DE 27 25 849 A1	12/1978	DE				
↓	Y4	EP 0 258 016 A	03/1988	EP				
↓	Y5	EP 0 265 924 A2	04/1988	EP				
↓	Y6	WO 02/13786	02/2002	WO				
↓	Y7	WO 2005/055988	08/2006	WO				
↓	Y8	WO 2006/057766A1	06/2006	WO				
/KG/	Y9	WO 97/31691	04/1997	WO				

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							Yes	No
/KG/	Y10	WO 98/58745	12/1998	WO				
/KG/	Y11	WO 99/44735	10/1999	WO				

Examiner Initials*		OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS	
		Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages	
/KG/	X1	Aldrich, "Microparticle Size Standards," Aldrich Technical Bulletin, AL-203, pp. 1-2, 1997.	
	X2	Amsden, B., "The production of uniformly sized polymer microspheres," Pharm. Res. 16, 1140-1143, 1999.	
	X3	Amsden, B.G. et al., "An examination of factors affecting the size, distribution, and release characteristics of polymer microbeads made using electrostatics," J. Controlled Rel. 43, 183-196, 1997.	
	X4	Banerjee, T., et al., "Preparation, characterization and biodistribution of ultrafine chitosan nanoparticles," Int. J. Pharm. 243, 93-105, 2002.	
	X5	Berkland, C. et al., "Fabrication of PLG microspheres with precisely controlled and monodisperse size distributions," Journal of Controlled Release, vol. 73, pp. 59-74, May 18, 2001.	
	X7	Berkland, C., et al., "Precise control of PLG microsphere size provides enhanced control of drug release rate," Journal of Controlled Release, vol. 82, pp. 137-147, 2002.	
	X8	Berkland, et al., "Controlled Release from Uniform Two-Polymer Microcapsules," Proceedings of the International Symposium on Controlled Release of Bioactive Materials, vol. 30, pp. 350, (2003).	
	X10	Bittner, B. et al., "Ultrasonic Atomization for Spray Drying: A Versatile Technique For the Preparation of Protein Loaded Biodegradable Microspheres," Journal of Microencapsulation, Vol. 16:3, p. 325-341, 1999.	
	X11	Brandau, T., "Preparation of monodisperse controlled release microcapsules," Int. J. Pharm. 242: 179-184, 2002.	
	X12	Crofts, G. et al., "Preparation of porous and nonporous biodegradable polymeric hollow microspheres," J. Controlled Rel. 35, 91-105, 1995.	
	X13	Foster, C.A., et al., "Apparatus for producing uniform solid spheres of hydrogen," Rev. Sci. Instrum., vol. 48, no. 6, pp. 625-631, 1977.	
	X14	Gilliard, R.P., et al., "Spherical hydrogen pellet generator for magnetic confinement fusion research," Rev. Sci. Instrum., vol. 52, no. 2, pp. 183-190, 1981.	
	X15	Guttman, C.D. et al., "An investigation of the effects of system parameters on the production of hollow hydrogen droplets," J. Appl. Phys., vol. 50, no. 6, pp. 4139-4142, June 1979.	
	X16	He, P., et al., "Chitosan microspheres prepared by spray drying," Int. J. Pharm. 187, 53-65, 1999.	
	X17	Hendricks, C.D., et al., "Interaction of a stream of dielectric spheres in an electric field in a high vacuum," IEEE Trans. Ind. Appl., vol. 1a-21, no. 3, pp. 705-708, 1985.	
/KG/	X18	Huang, Y., et al., "Formulation factors in preparing BTM-chitosan microspheres by spray drying method," Int. J. Pharm. 242, 239-242, 2002.	

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Examiner Initials*		OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages
/KG/	X19	International Search Report dated March 16, 2006 for PCT application number PCT/US2004/040195.
	X20	Jang, K.Y. et al., "Evaluation of sol-gel processing as a method for fabricating spherical-shell silica aerogel ICF targets," J. Vac. Technol. A, vol. 10, no. 4, pp. 1152-1157, 1992.
	X21	Jang, K.Y. et al., "Study of sol-gel processing for fabrication of hollow silica-aerogel spheres," J. Vac. Sci. Technol. A, 8:3, pp. 1732-1735, 1990.
	X22	Kim, K. et al., "Generation of charged drops of insulating liquids by electrostatic spraying," J. Appl. Phys., vol. 47, no. 5, pp. 1964-1969, May 1978.
	X23	Kim, K. et al., "Hollow silica spheres of controlled size and porosity by sol-gel processing," J. Am. Ceram. Soc., 74:8, pp. 1987-1992, 1991.
	X24	Kim, K., "Fabrication of glass micro- and nanospheres from liquid precursors using droplet generation and sol-gel processing," Mat. Res. Soc. Symp. Proc., vol. 372, pp. 25-32, 1995.
	X25	Kim, K., et al., "Fabrication of hollow silica aerogel spheres by a droplet generation method and sol-gel processing," J. Vac. Sci. Technol. A, vol. 7, no. 3, pp. 1181-1184, 1989.
	X26	Kirwan, J.E., et al., "An experimental and theoretical study of a monodisperse spray," AIAA J. Propulsion and Power, vol. 4, no. 4, pp. 299-307, 1988.
	X27	Ko, J., et al., "Preparation and characterization of chitosan microparticles intended for controlled drug delivery," Int. J. Pharm. 249, 165-174, 2002.
	X28	Koizumi, Makoto, et al., "Allosteric selection of ribozymes that respond to the second messengers cGMP and cAMP," Nature Structural Biology, Vol. 6, pp. 1062-1071, 1999.
	X29	Leach, K.J., et al., "Degradation of double-walled polymer microspheres of PLLA and P(CPP:SA) 20:80. I. In vitro degradation," 1973-1980, 1998.
	X30	Leach, K.L., et al., "Degradation of double-walled polymer microspheres of PLLA and P(CPP:SA) 20:80 II In vivo degradation," Biomaterials, 19:1981-1988, 1998.
	X31	Lee, T.H., et al., "Double-walled microspheres for the sustained release of a highly water soluble drug: characterization and irradiation studies," J. Controlled Release, 83:437-452, 2002.
	X32	Leelarasamee, N. et al., "A method for the preparation of polylactic acid microcapsules of controlled particle size and drug loading," Journal of Microencapsulation 5, 147-157, 1988.
	X33	Loscertales, I.G., et al., Micro-nano encapsulation via electrified coaxial liquid jets," Science, 295, pp. 1695-1698, (2002).
	X34	Mok, L.S. et al., "Equilibrium of a liquid in a spherical shell due to gravity, surface tension, and van der Waals forces," Phys. Fluids, vol. 28, no. 5, pp. 1227-1232, May 1985.
	X35	Reyderman, L. et al., "Electrostatic spraying and its use in drug delivery - cholesterol microspheres," Int. J. Pharm. 124, 75-85, 1995.
	X37	Sanchez, A. et al., "Pulsed controlled-release system for potential use in vaccine delivery," Pharm. Sci. 85, 547-552, 1996.
	X38	Sansdrap, P. et al., "Influence of manufacturing parameters on the size characteristics and the release profiles of nifedipine from poly(DL-lactide-co-glycolide) microspheres," Int. J. Pharm. 98, 157-164, 1993.
	X39	Santoro, Stephen, et al., "A general purpose RNA-cleaving DNA enzymes," Proceedings of National Academy of Science, Vol. 94, pp. 4262-4266, 1997.
/KG/	X40	Shi, M., et al., "Double walled POE/PLGA microspheres: encapsulation of water-soluble and water-insoluble proteins and their release properties," J. Controlled Release, 89:167-177, 2003.

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/KG/	X41	Shiga, K. N. Muramatsu et al., "Preparation of poly(D,L-lactide) and copoly(lactide-glycolide) microspheres of uniform size," J. Pharm., Pharmacol 48, 891-895, 1996.
↓	X42	Skoog, D., et al., from Fundamentals of Analytical Chemistry, fourth edition, Section 3C-2, 51-53, 1982.
	X43	Tracy, M.A., "Development and scale-up of a microsphere protein delivery system," Biotechnol. Prog. 14, 108-115, 1998.
	X44	Yang, Y., et al., "POE/PLGA composite microspheres: formation and in vitro behavior of double walled microspheres," J. Controlled Release 88:201-213, 2003.
	X45	You, J. et al., "Preparation of regular sized ca-alginate microspheres using membrane emulsification method," Journal of Microencapsulation, vol. 18, no. 4, pp. 521-532, 2001.
	X46	International Search Report dated January 30, 2003 for PCT application number PCT/US2001/25674.
	X47	Utada, A.S., et al., "Monodisperse double emulsions generated from a microcapillary device", Science, vol. 308, pp. 537-541, (2005).
	X48	Groenendaal, L., et al., "Poly(3,4-ethylenedioxythiophene) and its derivatives: Past, Present, and Future", Advanced Materials, vol. 12, no. 7, pp. 481-494, (2000).
	X49	Schrauwers, A., "Focused spraying: Fighting plant disease without making a mess", Delft Outlook, pp. 1, 6-16, located at <a href="http://www.delftoutlook.tude1ft.nl/info/index.cfm?hoofdstuk=article&amp;ArtID=5558">http://www.delftoutlook.tude1ft.nl/info/index.cfm?hoofdstuk=article&amp;ArtID=5558</a> , (2003).
/KG/	X50	International Search Report dated April 6, 2006 for PCT application number PCT/US2005/038995.

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/KG/	X36	Reyderman, L. et al., "Novel methods of microparticulate production: application to drug delivery," Pharm. Dev. Technol, vol. 1, no. 3, pp. 223-229, (1996).

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